

AMENDMENTS TO THE CLAIMS:

Kindly amend claims 1, 17 and 19, and add new claims 20 and 21 as follows. The present listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A method for the production of heterologous proteinaceous substances in plant material, comprising the steps of:

culturing plant material in a culture medium, wherein the plant material is transformed protonema tissue, transformed with a construct encoding a signal peptide operably linked to a protein, that produces heterologous proteinaceous substances; and

obtaining secretedthe heterologous proteinaceous substances from the culture medium without disrupting producing tissues or cells.
2. (Previously presented) The method according to claim 1, characterized in that proteinaceous substances released into the culture medium are biologically active.
3. (Previously presented) The method according to claim 1, characterized in that the culture medium is free from sugars, vitamins and phytohormones.
4. (Previously presented) The method according to claim 1, characterized in that the tissue is selected from the group consisting of moss tissue and liverwort tissue.

5. (Previously presented) The method according to claim 1, characterized in that the tissue is selected from moss tissue of the group consisting of *Physcomitrella*, *Funaria*, *Sphagnum* and *Ceratodon*.

6. (Previously presented) The method according to claim 1, characterized in that the tissue is selected from liverwort tissue of the group consisting of *Marchantia* and *Sphaerocarpos*.

7-16. (Canceled)

17. (Currently amended) A method for the production of heterologous proteinaceous substances in plant material, comprising the steps of:

culturing plant material in a culture medium, wherein the plant material is transformed protonema tissue, transformed with a construct encoding a signal peptide operably linked to a protein, that produces heterologous proteinaceous substances, wherein the protonema tissue is selected from the group consisting of *Physcomitrella*; and

obtaining secretedthe heterologous proteinaceous substances from the culture medium without disrupting producing tissues or cells.

18. (Canceled)

19. (Currently Amended) A method for the production of heterologous proteinaceous substances in plant material, comprising the steps of:

culturing plant material in a culture medium, wherein the plant material is transformed protonema tissue, transformed with a construct encoding a signal peptide operably linked to a protein, that produces heterologous proteinaceous substances, wherein the protonema tissue is *Physcomitrella patens*; and

obtaining secretedthe heterologous proteinaceous substances from the culture medium without disrupting producing tissues or cells.

20. (NEW) The method according to claim 1, characterized in that the tissue is selected from moss tissue of the group consisting of *Physcomitrella*, *Funaria* and *Ceratodon*.

21. (NEW) The method according to claim 1, characterized in that the tissue is selected from liverwort tissue of the group consisting of *Marchantia*.